

### **Remarks**

The instant Office Action dated October 11, 2007, indicated an objection to Figure 2, objections to the specification and listed the following rejections: claims 1-25 stand rejected under 35 U.S.C. § 112, first paragraph; claims 1-25 stand rejected under 35 U.S.C. § 112, second paragraph; claims 1, 3-4, 6-7, 10, 15-18, 20-21 and 23-25 stand rejected under 35 U.S.C. § 103(a) over Zehavi *et al.* (U.S. Patent No. 6,005,855); and claims 5, 12, 14 and 22 stand rejected under 35 U.S.C. § 103(a) over Zehavi in further view of Admitted Prior Art.

#### **I. Objections To The Drawings**

Applicant respectfully traverses the objection to the drawings related to the Examiner's assertion that "the disclosed advantage of the proposed algorithm is not supported by Fig. 2." 37 CFR 1.84 (p)(5) states, in its entirety, that "Reference characters not mentioned in the description shall not appear in the drawings. Reference characters mentioned in the description must appear in the drawings." The Examiner has not provided any rationale in the M.P.E.P. (or otherwise) in support of the erroneous assertion that a disclosed advantage of a proposed algorithm must be shown in the figures. The Examiner has not even alluded to the text of 37 CFR 1.84 (p)(5), which provides no support for the Examiner's objection. The requirements of 37 CFR 1.84 (p)(5) have been met because the Applicant's specification has not identified any reference characters that appear in either the description or the drawings but not in both.

Notwithstanding, Applicant has reviewed the Examiner's response and submits that the Examiner's objection is based upon a false assertion. Specifically, the Examiner has asserted that FIG. 2 does not show rate allocation. FIG. 2 shows degree of unfairness, which, as taught by Applicant's specification, includes rate allocations. Thus, the Examiner's rationale for the objection is based upon a false assertion.

For at least the aforementioned reasons, the objection under 37 CFR 1.84 (p)(5) is improper and Applicant requests that it be removed.

In an effort to facilitate prosecution and should the application be deemed allowable, Applicant would submit any requisite formal drawings.

## II. Objections To The Specification

The Examiner's conclusions are contradicted by the Applicant's specification, which provide descriptions regarding the aspects of concern by the Examiner. Applicant is unable to determine what, specifically, is believed to be unclear to the Examiner. To the best that Applicant is able to ascertain from the vague and conclusory statements of the Examiner, the portions identified clearly disclose the aspects of concern. Applicant submits that the Examiner has not shown that these aspects are unclear and has merely expressed a conclusion. Without a specific reason for or explanation of the allegedly unclear portions, Applicant has not been afforded a fair opportunity to assist the Examiner in understanding what appears to be clearly taught by Applicant's specification.

### a. The Examiner Has Improperly Relied Upon Conclusory Statements Without Presenting Evidence Or Specific Explanations For The Objections

Step 2 clearly indicates how the rate increase and vector of transmit powers are related. The Examiner has merely asserted that the relations between the rate increase and transmit powers are not disclosed. Applicant submits that the specification discusses rate increases for each user,  $k$ , and resulting power vectors. The specification provides a specific example of determining the power vectors for each of the rate increases in the Appendix. Moreover, the Examiner's statement that a vector of transmit powers is not disclosed is false. Such a vector is indeed disclosed in the Appendix. As such, the Examiner's conclusory statements lack sufficient support and Applicant requests that they be removed.

The Examiner's assertion that step 3 is unclear is merely a conclusion with no specific explanation of what the Examiner does not understand. The step defines a set of users that meet certain parameters and ceases the iteration if the set is empty. As such, the Examiner's conclusory statements lack sufficient support and Applicant requests that they be removed.

The Examiner's assertion that the algorithm on page 10 and 11 and the steps thereof is unclear is an unsupported conclusory statement. Applicant has not been apprised of what the Examiner, specifically, does not understand. As such, the

Examiner's conclusory statements lack sufficient support and Applicant requests that they be removed.

b. The Examiner's Assertion Regarding New Matter Relies Upon An Erroneous Statement

The Examiner erroneously asserts that the statement that a CPU is well recognized as being clock-based is new matter. The Examiner has merely presented a conclusory statement and has failed to provide any support for this assertion. Applicant submits that one of skill in the art would readily understand that CPUs are clocked based and that a CPU is a type of circuit. Explicitly identifying such readily known properties of CPUs is not introducing new matter. Applicant notes that many CPUs are sold based upon their respective clock speeds (*e.g.*, a 300MHz Pentium III ®). Accordingly, Applicant respectfully submits that the Examiner's assertion to the contrary is illogical and does not have proper support. Notwithstanding and for the purposes of facilitating prosecution, Applicant would consider amending the specification (*e.g.*, to remove the term CPU) should such amendments result in allowance of the application.

III. Section 112(1) Rejections

Applicant respectfully traverses the Section 112(1) rejections of claims 1-25 because the claimed subject matter is described in the specification in such a way as to enable one of skill in the art to make and/or use the invention. M.P.E.P. § 2163 states that:

The examiner has the initial burden, after a thorough reading and evaluation of the content of the application, of presenting evidence or reasons why a person skilled in the art would not recognize that the written description of the invention provides support for the claims. There is a strong presumption that an adequate written description of the claimed invention is present in the specification as filed, *Wertheim*, 541 F.2d at 262, 191 USPQ at 96.

Applicant respectfully submits that the Examiner has not met the initial burden of a thorough reading and evaluation of the application and has not presented valid evidence or reasons why a person skilled in the art would not recognize that the written description of the invention provides support for the claims. In some instances, the Examiner has not

provided any such evidence/reason other than simply concluding that there is no support. In other instances, the Examiner's evidence/reasons rely upon false or illogical statements.

a. The Examiner Has Improperly Relied Upon Conclusory Statements Without Presenting Evidence Or Reasons For The Rejections And/Or Has Relied Upon Illogical Assertions

Many of the Examiner's rejections include paraphrases from the M.P.E.P. without a discussion of the relevant portions of Applicant's specification. Such statements amount to a mere conclusion that there is lack of support. Without supporting evidence or reasons, mere conclusory statements are insufficient bases for a rejection. For example, the Examiner improperly concludes that "the specification does not provide sufficient details to enable a skilled in the art to make and use the invention because it does not adequately describe the following:". The Examiner proceeds to list a number of claim limitations while merely concluding that they are not adequately described. However, a thorough review of Applicant's specification would have revealed support for each aspect.

In an effort to facilitate prosecution, Applicant previously provided the Examiner with citations to examples of where many of such elements were taught. See Applicant's response of September 5, 2007, which is fully incorporated herein by reference. The Examiner alludes to portions of the disclosure not being understood without further elaboration. Due to the lack of any specific explanation as to what is not understood, Applicant is unable to ascertain the portions that the Examiner does not understand. Consistent with M.P.E.P. § 2163, the Examiner should clarify with particularity how the teachings in Applicant's specification fail to adequately describe the claim limitations.

Accordingly, Applicant respectfully requests that the Examiner perform a thorough reading and evaluation of the content of Applicant's specification including the examples Applicant previously identified. Should the Examiner wish to maintain the rejections, Applicant also requests that the Examiner present evidence or reasons why a person skilled in the art would not recognize that the written description of the invention provides support for the claims.

Moreover, in the Examiner's attempt to address Applicant's response of September 5, 2007, the Examiner relies upon illogical assertions. The following discussion discusses with particularity the impropriety of the rejections.

i. The Examiner's Assertion Regarding "The Only Vector Mentioned" Is False

The Examiner's characterization of the iterative algorithm of Appendix A, Section IV shows that the Examiner's has failed to perform a thorough review of Applicant's specification. The Examiner incorrectly asserts that the "only vector mentioned in the cited portion of Appendix A is a standard interference vector." This assertion is illogical and ignores the teachings of the Appendix. Specifically, the interference vector is defined as being derived from the power vector (*see, e.g.*, page 5 of Appendix A). Thus, the Examiner's statement is clearly false and shows a failure to thoroughly review the teachings of the Applicant's Specification.

ii. The Examiner's Assertion That A CPU Is Not a Clocked Based Circuit Is False

In another example, the Examiner has asserted that a CPU is not an example of a clock-based circuit. The Examiner has merely presented a conclusory statement and has failed to provide any support for this assertion. Applicant submits that one of skill in the art would readily understand that CPUs are generally clocked based and that a CPU is merely a specific type of circuit. Applicant notes that many CPUs are sold based upon their respective clock speeds (*e.g.*, 300MHz Pentium III ®). Accordingly, Applicant respectfully submits that the Examiner's assertion to the contrary is illogical and does not have proper support.

iii. The Examiner Has Not Provided Any Evidence Or Reason For The Conclusory Statement Regarding The Degree Of Transmission-Rate-Allocation

In yet another example, the Examiner has improperly asserted that the relevant portions of the disclosure are unclear without providing a rationale for such an assertion. Instead, the Examiner merely provides a conclusory statement. A thorough review of the Applicant's Specification shows ample support for determining the degree of transmission-rate-allocation unfairness relative to the transmission rates of all the users. Specifically, the Examiner has not provided a reason why the unfairness equations and discussion thereof are unclear. Without such an explanation for the basis of the rejection, Applicant is unable to ascertain the Examiner's point of confusion, as the specification appears to clearly teach this aspect. Accordingly, the rejections are improper.

For at least the aforementioned reasons, Applicant submits that the rejections are improper and requests that they be removed.

IV. Section 112(2) Rejections

Applicant respectfully traverses each of the Section 112(2) rejections of claims 1-25 because the claims do particularly point out and distinctly claim that which Applicant regards as the invention. Applicant discusses these issues in more detail below.

The Examiner has not provided adequate analysis as to why the (improperly) rejected terms are vague and indefinite. M.P.E.P. 2173.02 states that:

If upon review of a claim in its entirety, the examiner concludes that a rejection under 35 U.S.C. 112, second paragraph, is appropriate, such a rejection should be made and an analysis as to why the phrase(s) used in the claim is "vague and indefinite" should be included in the Office action.

Moreover, much of the Examiner's limited analysis as to why the phrase(s) used in the claims is "vague and indefinite," is illogical and, in some cases, directly contradicted by the teachings of Applicant's specification. Accordingly, the Examiner's conclusory statements regarding the 112(2) rejections appear to be based upon a lack of thorough review and illogical misinterpretations of the relevant teachings.

a. The Examiner's Rationale For The Rejections Is Unclear

In an effort to facilitate prosecution, Applicant previously provided the Examiner with citations to Applicant's specification that showed examples of the various elements erroneously identified as indefinite. In response, the Examiner merely concludes that these limitations are unclear because they are not understood. Without further explanation as to what portion of the limitations the Examiner is unable to understand, Applicant is unable to ascertain the Examiner's point of confusion. The following discussion addresses some of the shortcomings of the Examiner's rejections.

i. The Examiner Has Not Provided Any Rationale For The Conclusory Statement Regarding The Limitations Directed To A Resulting Vector Of Transmit Powers Ensuing The Increased Transmission Rate

Applicant is unable to determine what the Examiner believes is indefinite about such language. The Examiner's argument is merely a recitation of the limitation with a conclusion that it is not understood. Applicant submits that without the evidence or reasons for the rejection, the rejection is improper because the claim language is definite in view of the plain meaning of the terms (i.e., independent of any explanation in Applicant's specification).

The claim language is directed to a resulting vector of transmit powers that ensues the increased transmission rate. The Examiner identifies the problematic terms as "resulting vector of transmit powers." Applicant submits that these terms would be understood by a person of skill in the art. For example, a person of skill in the art would understand that "resulting" means to come about as a consequence; "vector" is a mathematical-based structure; "transmit" means to send; and "powers" means energies. Thus, the rejected claim language is definite. Notwithstanding, Applicant previously attempted to assist the Examiner by providing citations to Applicant's specification. These citations taught example implementations that were consistent with the claim limitations. Applicant respectfully disagrees with the Examiner's unsupported conclusion that the disclosure is unclear; however, as each of these terms has a plain

meaning to those of skill in the art, the Examiner's assertion regarding allegedly unclear portions of the specification is moot.

Accordingly, the Examiner's rejection is improper for failure to provide any explanation other than a conclusory statement related to the Examiner's inability to understand the specification and/or limitations. Should the Examiner wish to maintain the rejection, Applicant requests a specific explanation of the rationale for the rejection. Specifically, Applicant requests that the Examiner explain why the terms would not be understood by one of skill in the art.

ii. The Examiner's Basis For The Rejection Under 112(2) Directed To The Set Of All Users Improperly Requires Explicit Antecedent Basis For An Inherent Element

The Examiner has erroneously rejected claim 4 under 112(2) for lack of antecedent basis. Applicant again notes that explicit antecedent basis is not required. *See* M.P.E.P. § 2173.05(e). Applicant respectfully submits that given the term "all users" (from claim 1) there is necessarily a set of all users, and as such, the Examiner's assertion improperly requires explicit antecedent basis for a claim term that is an inherent element of a previous claim term. *See* M.P.E.P. § 2173.05(e). Specifically, the Examiner's assertion that the set of all users can be directed to all users is irrelevant to the rejection because a set of all users is inherent to all the users presented in claim 1. Accordingly, while Applicant appreciates the Examiner's careful review of these claims, Applicant submits the claim is definite. Notwithstanding, Applicant has amended claim 4 in an attempt to facilitate prosecution. The amendment is not intended to change the scope of the claims and renders the rejection moot.

iii. The Examiner Fails To Provide An Analysis Of The Basis For The Rejection Under 112(2) For Limitations Directed To The Corresponding Iteration

The Examiner has concluded that "the corresponding iteration" fails to identify the particular iteration of the claim due to lack of proper antecedent basis. No rationale is given for this assertion and Applicant's previous response has not been addressed. Applicant submits that claim 4 includes limitations directed to identification of a user and



to use of the corresponding iteration. Claim 1 includes limitations directed to iteratively changing the transmission rate of each user. Thus, claim 1 provides explicit antecedent basis for iterations to change a transmission rate of each user. Accordingly, the rejections are improper and Applicant requests that they be withdrawn.

iv. The Examiner's Rational For Rejecting "A Degree Of Transmission-Rate-Allocation Unfairness Relative To The Transmission Rates Of All Users" Improperly Relies Upon The Breadth Of The Limitations

The Examiner asserts that it is not understood if the claimed degree is one value of unfairness for each user or a set of unfairness values for all users. Applicant notes that the Examiner's rejection is improper as it is impermissibly attempting to limit the breadth of the limitations. (See M.P.E.P. § 2173.04: "Breadth of a claim is not to be equated with indefiniteness. *In re Miller*, 441 F.2d 689.") In this instance, the Examiner is merely asserting that there are two possible embodiments that could be covered by the limitations in question. Such an assertion is a statement regarding the breadth of the claims, which are allowed to cover more than a single embodiment. Accordingly, the Examiner's assertion that limitations could read on two different possible embodiments is not a proper basis for a 112(2) rejection.

In view of the above, Applicant respectfully submits that the Section 112(2) rejections of claims 1-25 have been addressed and should now be withdrawn.

V. Section 103(b) Rejections

Applicant respectfully traverses the Section 103(a) rejections for the reasons presented below. Applicant respectfully submits that the Zehavi reference is largely unrelated to the claimed invention.

a. The Examiner Has Failed To View The Claimed Invention And Cited References As A Whole

The Examiner has cited to various elements of the Zehavi reference neither properly viewing, as a whole, the teachings of the Zehavi reference nor the claim limitations. M.P.E.P. § 2141 states that following tenets of patent law must be adhered

to: 1) the claimed invention must be considered as a whole and 2) the references must be considered as a whole. Thus, a proper rejection does not rely only upon the identification of individual elements without an analysis of how the elements are related both in the claimed invention and the relied upon references. Specifically, the Examiner has not performed the necessary “as a whole analysis” while attempting to address the limitations directed to changing the transmission rate of each user as a function of several elements.

i. The Examiner Has Failed To Properly Address How The Power Control Groups Relate To Limitations Directed To Changing The Transmission Rate Of Each User

The Examiner erroneously relies upon the teachings related to the ordering of power control groups. The Examiner has not provided any explanation as to how the ordering of power control groups is related to iterative changes to a users’ transmission rate. Applicant respectfully submits that this portion of the Zehavi reference is related to the order of transmission (*i.e.*, for the purpose of data recovery using duplicative transmissions), and thus, is not relevant to the claim limitations as a whole, which are directed to iterative changes to users’ transmission rates. With particular regard to the limitations directed to a resulting vector of transmit powers ensuing from the increased transmission rate, the Examiner has failed to provide any analysis of how the Zehavi reference teaches correspondence. The cited portion does not provide any discussion of a vector of transmit powers or the use of such a vector in relation to changes in a users’ transmission rate. The Examiner’s assertion that vectors are known does not show how the power control groups are relevant to such vectors nor shed light on their use. For at least the aforementioned reasons, Applicant submits that the relied upon portion of the Zehavi reference does not appear to correspond to the limitations.

ii. The Overflow Channels Are Not Taught To Be Relative To The Transmission Rates Of All Users

In another example, the Examiner erroneously relies upon the use of overflow channels to correspond to the limitations directed to a degree of transmission rate allocation unfairness relative to the transmission rates of all users. The Examiner

improperly asserts that overflow rate assignment is inherently directed to unfairness because both factors are interrelated. Consistent with M.P.E.P. 2112, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Merely asserting that two factors are interrelated does not establish inherency without an explanation of why the inherent aspect is a necessary component in the teachings. In this case, there is no correspondence to a degree of transmission rate allocation unfairness. Instead, the “fairness” discussed in connection with the Zehavi reference is relative to the number traffic channels assigned to each overflow channel and the number of joint assignment of each pair of overhead channels. *See, e.g.*, Zehavi at Col. 22, lines 25-30. This “fairness” is not taught to be relative to the actual transmission rates of the users. Thus, the relied upon portion of the Zehavi reference is unrelated to a transmission rate allocation fairness that is relative to the transmission rates of all users.

iii. The Cited Portions Of Zehavi Do Not Correspond To Claim Limitations Directed To Incrementally Adjusting The Transmission Rates Of The Users By Iteratively Changing The Transmission Rate Of Each User

The Zehavi reference is generally directed to assigning overflow channels to a user when the rate of the user’s transmission exceeds the capacity of their allocated traffic channel, if an overflow channel is available. *See, e.g.*, Col. 2:66 to Col. 3:25. The cited portions of Zehavi do not teach changing the transmission rates of the users relative to each other, but simply assigning overflow channels based on the user’s transmission rate and the availability of the overflow channels. Thus, the cited portions of Zehavi do not teach iteratively changing the transmission rates of each user.

Accordingly, the Section 103(a) rejections are improper and Applicant requests that they be withdrawn.

b. The Examiner's Use Of Official Notice Is Improper For Failing To Provide Support For The Specific Implementation The Examiner Is Relying Upon And For Relying Upon Improper Conclusory Statements

Applicant traverses the Examiner's taking of Official Notice "that combining a set of values in a vector is well known in the art," with respect to the particular application being asserted. According to M.P.E.P. § 2144.03 "It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known." Applicant submits that without a citation to a prior art reference in support, the Examiner's use of Official Notice in this instance is improper.

The Examiner's only support for this hypothetical combination is a general discussion of a vector; however, the Examiner's combination allegedly involves "combining transmit powers into a vector to the system of Zehavi to improve the system analysis by utilizing a well known vector presentation of the transmit powers for mathematical operations to optimize the system." Neither reference teaches these aspects, nor does the Examiner provide any explanation of what the various components actually comprise, how they would be implemented, or how they would function. Applicant submits that the Examiner has not presented a *prima facie* case of obviousness on the basis of such vague and unsupported conclusory statements. Moreover, Applicant's specification provides the only source of teachings in the record that correspond to the Examiner's hypothetical combination. As such, the Examiner appears to have relied upon impermissible hindsight reconstruction.

Moreover, the Office Action has provided no reason to combine the allegedly well known aspects with the Zehavi reference. This approach is contrary to the requirements of Section 103 and relevant law. "A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (U.S. 2007). In this instance, the Office Action simply concludes that it would be obvious to add combining transit powers into a vector to the system of Zehavi "to improve the system analysis." See, e.g., page 6 of the Office Action. However, the Office Action has not

cited any evidence as to why one of skill in the art would find the asserted combination obvious as required and has instead improperly relied upon conclusory statements.

Furthermore, Applicant submits that such a generic combination would frustrate the intended purpose and operation of the Zehavi reference. According to M.P.E.P. § 2143.01, if a "proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." See *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). In view of the above, the Section 103(a) rejections are improper and Applicant requests that they be withdrawn.

In view of the above discussion, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. A favorable response is requested. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is encouraged to contact the undersigned at (651) 686-6633.

Respectfully submitted,

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By: 

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